REMARKS

Claims 1-9 are pending in the application. Claims 1 and 5 have been amended, and new claim 10 has been added by the present amendment. The amendments are fully supported by the application as originally filed (see, e.g., specification at page 31, last paragraph to page 32, first paragraph).

As amended, independent claims 1 and 10 recite an image forming apparatus including a sheet eject mechanism, and a control device for determining/regulating a **delay time** required for the sheet eject mechanism to start to return to an initial position from a sorting position after ejecting a sheet onto a receiving tray. As recited in claim 1, the delay time is "based on a difference in length between a transport interval that varies according to sizes of sheets being processed and time that it takes the sheet eject mechanism to move back from the sorting position to the initial position." Claim 10 simply requires the control device to regulate delay time *based on detected sizes of sheets being processed.*

According to the Applicants' invention, the delay time is set to ensure that sheets ejected from the sheet eject mechanism are prevented from contacting the sheet eject mechanism moving back to the initial position from the sorting position. If the delay time is too short, a sheet just ejected from the sheet may contact part of the sheet eject mechanism, e.g., an actuator provided on the sheet eject mechanism, thereby causing a stacking problem. On the other hand, the delay time cannot be extended beyond a difference in length between a transport interval and time that it takes the sheet eject mechanism to move back from the sorting position to the initial position (see specification at page 32, first paragraph). In other words, the sheet eject mechanism must complete its return from the sorting position to the initial position within a transport interval in order to avoid a jamming problem (see, e.g., specification at page 38, first full paragraph).

As recited in claim 1, "delay time" is set based on a transport interval that varies according to sizes of sheets being processed and time that it takes the sheet eject mechanism to move from the sorting position to the initial position (or, "based on detected sizes of sheets being processed" in claim 10).

The Applicants' invention overcomes problems which occur in offset copy stacking in, e.g., copy machines or printers. Problems occur, for example, when different sized papers are used for printing or copying different jobs which are to be stacked in different positions in a copy tray. One problem which occurs is that different-sized sheets often require different delay times in order to permit the sheet eject mechanism to return to the sorting position without causing stacking problems or jams. Applicants' claimed invention overcomes this problem by specifying that delay time is determined based on a difference in length of a transport interval according to sheet size and a time for the sheet eject mechanism to move back from the sorting position to the initial position.

Claims 1-9 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent Application Publication US 2002/0044810 to Sato et al. ("Sato") in view of U.S. Patent 6,445,891 to Shiraishi. This rejection is respectfully traversed.

In the Office Action of 06/27/2005, it was admitted: "Sato does not teach the sheet eject mechanism which moves between an initial position and a sorting position and the control device [for] regulating a delay time required for the sheet mechanism moving from the initial position to the sorting position..." (Office Action, page 2, last paragraph).

The Shiraishi reference was cited allegedly for teaching "a control device (CPU) 31 which regulates a delay time for the sheet eject mechanism which moves from a position to other position via the initial sensor 26, the timing sensors 25, 38 and an offset motor 37" (Office Action at page 2, last paragraph to page 3, first paragraph).

Shiraishi does not teach or suggest an image forming apparatus in which **delay time** for a sheet eject mechanism to start to return to an initial position from a sorting position is determined "based on a difference in length between a transport interval that varies according to sizes of sheets being processed and time that it takes the sheet eject mechanism to move back from the sorting position to the initial position." Referring to claim 10, there is no teaching or suggestion of a control device that regulates delay time *based on detected sizes of sheets being processed.*

Shiraishi is directed to an image forming apparatus fitted with an offset stacker, which includes an error detection means for detecting an error in offset stacking and forced stopping means responsive to the error detection means for forcing a paper transport mechanism and an image forming means to stop their operation when an error is detected by the error detection means (see column 1, line 64 to column 2, line 9 of Shiraishi). In Shiraishi, copy processing is "stopped immediately on the occurrence of a displacement in the timing of the offset motor signal or a malfunction of the moving element 22" (see column 8, lines 32-38).

FIG. 4 of Shiraishi is a timing diagram illustrating operation of the offset stacker 2, e.g., for offset stacking of alternate copies (see column 5, lines 19-21). A timing sensor 25 is turned ON when a copy is transported from the digital copying machine 1 to the offset stacker 2 (see column 5, lines 22-24). In Shiraishi, the CPU 31 issues an OFFSET command to a motor driver 37 at time T3, which occurs "[a]fter a lapse of a predetermined time from the time T2" (when the timing sensor 25 is turned OFF). Thereafter, "a predetermined time elapses" and the moving element 22 is moved to the opposite position by a predetermined offset.

By the above operation, a copy sheet is discharged into the discharge tray 3 offset to the left (see column 6, lines 3-5). A further operation can be carried out to discharge a subsequent copy sheet to the right side (see column 6, lines 28-30). In other words, offset stacking in Shiraishi is carried out according to predetermined times for moving the moving element 22. There is no teaching or suggestion of a delay time that varies according to sizes of sheets being processed or based on detected sizes of sheets.

Shiraishi simply does not teach or suggest a control device for determining delay time for a sheet eject mechanism to return to an initial position from a sorting position based on a difference in length of a transport interval according to sheet size and a time for the sheet eject mechanism to move back from the sorting position to the initial position. Moreover, there is no teaching or suggestion of a control device that regulates delay time *based on detected sizes of sheets being processed.*

It is believed that the claims are in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

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